PUBLICATION OF UNEXAMINED UTILITY MODEL APPLICATION

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Title of the Utility Model: MULTIPIN CONNECTOR FOR PRINTED WIRING BOARD
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SPECIFICATION

1. TITLE OF THE UTILITY MODEL

MULTIPIN CONNECTOR FOR PRINTED WIRING BOARD

2. SCOPE OF THE UTILITY MODEL CLAIMED

A multipin connector comprising:

a plurality of connector pins to be connected to a printed wiring board at one end, and to a mating connector at the other end; and

a housing for fixedly holding the plurality of connector pins,

wherein each of the plurality of connector pins is bent obtusely.

3. DESCRIPTION OF THE UTILITY MODEL

Field of the Invention

The present utility model relates to a multipin connector to be mounted on a PWB (printed wiring board).

Description of the Related Art

Conventionally, two types of multipin connectors for a PWB have been available, one of which has the connector pins extending perpendicular to the wide flat surface of the PWB (vertical type), and the other has the connector pins extending parallel to the wide flat surface of the PWB(parallel type). The use of the vertical, or parallel multipin connector depends on the maximum height allowed to the parts mounted on the PWB, maximum area of the PWB, destination to which the connector is to be connected, ease of cable extension to outside, etc.

The vertical multipin connector has an advantage that it occupies only small space on the PWB, but also has a disadvantage that it requires space in the direction of height, since the connector pins and the cable of the mating connector extend in the direction of height.

In contrast, the parallel multipin connector allows the use of smaller parts in height mounted on the PWB, but occupies larger space on the PWB. In addition, it is often mounted on the periphery of the PWB for facilitating the connection/disconnection of the connector from the mating connector, restricting the design of PWB patterns.

Problems to be Solved by the Utility Model

For the PWB mounting design, it is rare that only the height or space is the constraint, but it is usually the case that both the height and space become the constraints, so that a balanced design is required. For implementing the balanced design, the conventional vertical and parallel connectors have been inadequate, limiting the flexibility of the design.

Means for Solving the Problem

The present utility model is a multipin connector comprising a plurality of connector pins to be connected to a printed wiring board at one end, and to a mating connector at the other end; and a housing for fixedly holding the plurality of the connector pins, wherein each of the plurality of connector pins is bent obtusely.

Description of the Preferred Embodiment

Hereinafter, the preferred embodiment of the present utility model will be described with reference to the accompanying drawings. Figure 1 is a drawing illustrating an embodiment of a PWB multipin connector of the present utility model, and Figure 1 (a) is a front view, Figure 1 (b) is a side view, and Figure 1 (c) is a bottom view thereof. In Figure 1, the multipin connector comprises a housing 10 made of plastic, resin, or the like; a plurality of connector pins 11; and fixing holes 12. The connector pins are fixed to the housing 10, and bent at an angle of 135° as shown in Figure 1 (b). The housing 10 has an inclined surface 13 having an angle of 45° with respect to the bottom surface 14. Here, the bent angle θ of the connector pins 11 may be any angle as long as it is an obtuse angle($90^\circ < \theta < 180^\circ$), although the connector pins shown in Figure 1 have an obtuse angle of 135° . In addition, the angle of the inclined surface with respect to the bottom surface may be varied in accordance with the bent angle θ of the connector pins 11.

The multipin connector constructed in the aforementioned manner is mounted on a printed wiring board (PWB) 20, and connected to a mating connector 30 at the inclined surface 13 as shown in Figure 2. A cable 31 is connected to the other side of the mating connector 30. The

inclined surface 13 of the multipin connector may be attached to the PWB 20 to connect the mating connector 30 at the bottom surface 14. Further, levers may be provided on both ends of the multipin connector for disconnecting the mating connector 30.

As described above, changing the bent angle, etc. of the connector pins 11 of the multipin connector allows an easier PWB mounting design within the limited height and space.

Effect of the Utility Model

AS described above, the multipin connector of the present utility model may be used as an intermediate connector between the conventional vertical and parallel connectors, allowing ease of PWB mounting design, increased design flexibility, and optimum designing.

4. BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a drawing illustrating an embodiment of a PWB multipin connector of the present utility model; and Figure 1 (a) is a front view, Figure 1 (b) is a side view, and Figure 1 (c) is a bottom view thereof.

Figure 2 is a side view of the multipin connector shown in Figure 1, illustrating connections to a PWB, and to a mating connector as an example.

In the Figures, the numerical symbol 10 is a housing, 11 is connector pins, 12 is an attaching hole of the multipin connector, 13 is an inclined surface, 14 is a bottom surface, 20 is a printed wiring board (PWB), 30 is a mating connector, and 31 is a cable.